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(54) Title: WEB-BASED EXPERT SYSTEM FOR ORDERING FOODSTUFFS

(57) Abstract:

TITLE: Web-based Expert System for Ordering Foodstuffs

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TECHNICAL FIELD

The present invention is directed to a web-site market place for ordering foodstuffs, such as coffee, tea and other items which are typically provided by an employer for the benefit of its employees. More particularly, the present invention concerns such a market place in which assistance is provided to a user in determining the quantity of foodstuffs required for a given period of time.

15 BACKGROUND OF THE INVENTION

In recent years, the Internet has been increasingly used to facilitate the exchange of goods and services between consumers and suppliers. In a typical scenario, a customer visits a web-site of a supplier, selects items that he or she wishes to purchase, provides payment information such as a credit card, and eventually receives the ordered items. Included among the types of goods that one can order, are foodstuffs. Typically, a would-be consumer visits a web-site and views a selection of foodstuffs available in different quantities and at different prices. The consumer then selects one or more of the offered items and these are delivered in due course. In general, however, such web-sites facilitating the selling of foodstuffs do not provide guidance to the consumer as to the amount that the consumer should purchase.

Offices typically purchase certain foodstuffs which are provided to its employees either free or at nominal cost. For example, many offices provide coffee to their employees. In such case, the office must ensure that there is sufficient quantity of coffee, tea and related consumables on an ongoing basis. The office staff member charged with ensuring an adequate supply of these items must decide upon the quantity required for each item purchased. This person may monitor the quantity of these items that are consumed and place orders accordingly. Many offices contract with an outside vendor who attends to ensuring that an adequate supply of coffee and related consumables are on hand at all times to satisfy the needs of the office. However, for smaller offices, it is not profitable for the vendor to monitor the inventory because the potential sales to that office would, in any event, be relatively small. Thus, companies

not using an outside vending service are left to estimate and place orders as best as they can.

The prior art includes on-line services for ordering consumables for an event. These are especially associated with the catering industry. The catering web site http://business.mccneb.edu/mcheng/Catering.htm, for example, asks a customer to specify the number of people expected, and the start and end times for the event. From this, the caterer presumably is able to estimate the quantity of foodstuffs to be provided. However, such services do not contemplate providing sufficient foodstuffs for time periods longer than the duration of the specific event being catered. Accordingly, the back-end systems used by such on-line catering services are not designed to estimate the quantity of foodstuffs that would be required over an extended period of time, such as a week, a month or even longer, to satisfy the needs of an office.

15 SUMMARY OF THE INVENTION

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The present invention is realized, in one aspect, by a method of facilitating the selling of foodstuffs over a communications network by requesting information concerning the number of people who will consume a food item, receiving information concerning the amount of time that the food item will be made available during a predetermined first time period, estimating the amount of the food item that will be consumed during a second time period, and receiving an order to ship a quantity of the food item.

In one embodiment of the invention, information is provided as to the number of days per week that the food item is to be made available and the number of hours per day that the food item is to made available. This information is used in conjunction with the number of persons expected so as to arrive at an estimate of the amount that will be consumed.

In an embodiment of the invention, a calculation is made as to how much of the food item is to be shipped, given an estimated consumption quantity.

In yet another embodiment of the invention, a non-linear function is used to map the number of hours per day the food item is to be provided onto the quantity of that food item that is consumed during those hours.

In a particularly preferred embodiment of the invention, the at least one food item is coffee.

In another aspect of the invention, communication means is provided that enables the carrying out of the method described above. The communications means

comprises a web-based communication interface for ordering a quantity of a foodstuff, said interface comprising a series of linked electronic pages communicable to a user computer from a server, the series including:

prompting means for prompting a user to input data concerning the number of people expected to consume a food item and the amount of time that the food item will be made available during a predetermined first time period

output display means for communicating an estimate of an amount of the food item that will be consumed during a second time period, as estimated from the input data by means of a remote processor

means for receiving from the user an order to ship a user-approved quantity of the food item.

In an embodiment, the communication interface includes an output to warn the receiver thereof of an order quantity that is inconsistent with its order history

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In a further aspect of the invention there is provided a programmed computer having executable software code residing in a computer-readable memory associated therewith, the executable software code including:

code to send at least one message, the at least one message including a first request for first information related to the number of persons expected to consume said at least one food item, and a second request for at least one item of second information estimating the amount of time that the at least one food item is to be made available to the persons during a first time period;

code to estimate a consumption quantity based on the first and second information, the consumption quantity representing an amount of the at least one food item expected to be consumed over a second time period; and

code to receive an order to send a shipping quantity which is based on said estimated consumption quantity.

In an embodiment, the programmed computer includes code for sending third information suggesting the shipping quantity and code for receiving at least one instruction, requesting that the shipping quantity, as suggested, be sent.

The shipping quantity may comprise an integer number of packaged units of the at least one food item, each packaged unit sufficient to provide a predetermined number of servings of said at least one food item.

In an embodiment, the second information includes a first value reflective of the number of person-hours expected to be worked in a facility during a specified time period, the facility to be supplied with the at least one food item.

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In another embodiment, the computer comprises means for comparing an order quantity with an order history and flagging a disparity between them.

10 BRIEF DESCRIPTION OF THE DRAWINGS

The present invention can better be understood through the attached figures in which:

- Fig. 1 shows the infrastructure associated with the present invention;
- Fig. 2 shows the home page of a web site in accordance with the present invention;
 - Fig. 3 shows a usage query web page in accordance with the present invention in which the customer requests to manually select the food items;
 - Fig. 4 shows a manual selection web page in accordance with the present invention;
 - Fig. 5 shows another usage query web page in which a different number of hours per day is chosen;
 - Fig. 6 shows a manual selection web page corresponding to the usage query web-page of Fig. 5;
 - Fig. 7 shows a usage query web page in which a customer has elected automatic selection of the food items;
 - Fig. 8 corresponds to the automatic selection web-page which corresponds to the usage query web page of Fig. 7;
 - Fig. 9 shows a filled-out automatic selection web-page corresponding to Fig. 7 and Fig. 8;
 - Fig. 10 shows the items selected in the automatic selection web-page of Fig. 9;
 - Fig. 11 shows a shopping cart corresponding to the items displayed in Fig. 10;
 - Fig. 12 shows another shopping cart in which quantity of one of the items of Fig. 11 has been changed; and
- Fig. 13 shows a web-page encountered upon electing to checkout with the purchased items.

DETAILED DESCRIPTION OF THE INVENTION

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Fig. 1 shows the principle components of a web-based system for ordering foodstuffs. The Internet 100 electronically connects an office customer 102 a web site 104 and a foodstuff manufacturer/distributor 106. These three entities 102, 104 and 106 are connected to the Internet via known links 108 such as Internet Service Providers (ISPs) or direct connections to the Internet using either wireless or wireline means. It is also understood in this general architecture that the actual platforms at each of the entities may reside on a LAN which is connected to the Internet via a gateway computer or equivalent. In addition, or alternatively, a point-to-point link 110 may be established between the web site host 104 and the foodstuff manufacturer/distributor 106.

When using the Internet to order foodstuffs, the customer 102 connects to a web site where the customer can place an order. The content viewed by the customer may reside at host 104 or may reside elsewhere, such as on a computer platform operated by the foodstuff manufacturer or its agent. The customer places an order with the web site 104 and the order information is then sent to the manufacturer/distributor 106 for fulfilment. It should be noted that the manufacturer of the items being ordered need not be the same entity as the distributor who receives and fulfills the orders. In such case, the distributor may simply be a "back-end" service provider contracted by the manufacturer to ship product, or may effectively be a reseller of product supplied by the manufacturer. Other functional relationships among the web site owner, manufacturer and distributor may also be possible.

The present invention is further described with reference to a number of web pages.

Fig. 2 shows the home page 120 of a web site, the purpose of which is to provide an interface to facilitate the ordering of coffee, tea and collateral products for offices. The home page 120 provides informational links to such items as the web site privacy policy 122, the terms and conditions for using the web site 124 and information about services 126 offered by, or available via, the web site. The home page also provides a user with a selection of buttons for navigating through the web site include a "home" button 130, a "view cart" button 132 to view the shopping cart, a "shop fast" button 134 to expedite placement of an order, a "help" button 136 to obtain assistance with using the web site and an "account setup" button 138 to register a first-time customer.

If a customer knows exactly what it is that they wish to order and how much should be ordered, that customer can directly go to the item of interest by clicking on

one of the category-specific links 140. If, on the other hand, the customer is unsure as to what they wish to order or what quantity to order, they may click on the "order wizard" link 142. The order wizard guides the customer through the process of ascertaining the quantity of coffee and supplies that should be ordered and also helps with the selection of particular flavors and collateral items.

When the customer clicks on "order wizard" link 142, a usage query web page 150 is sent to the customer and displayed on the customer's device. As seen in Fig. 3, the purpose of the usage query web page is for the system to obtain information with which the total coffee consumption of the office may be estimated. For this, query web page 150 requests that the customer answer a number of questions. Included among these is a request to enter the number of coffee-drinking employees C in the office 152. One may alternatively ask for the total number of employees T and estimate the number of coffee drinkers based on this figure by using a function F() which maps the total number of employees onto the number of coffee drinkers, or C = F(T). The function F() may be a constant ratio "k", such that C = kT. Alternatively, the function F() may depend on such factors as office location (e.g., a larger proportion of the population in the upper Midwest drinks coffee than the population in the southwest of the USA), office type and other factors known to the system, perhaps by responses to other customer-specific queries.

A second item of information that preferably is requested is the number of days D per week that the office is open 154. A pull-down menu is provided for this purpose. The pull-down menu lists from 2-7 days per week, with a default value of 5 days per week. In general, the number of days an office is open each week varies depending upon the type of office it is. For example, most offices are open five days a week. On the other hand, certain institutions such as fire stations are open seven days per week with full staffing on all days. Other work sites, such as an amusement park in the off-season, may be open only 3 or 4 days. Seasonal variations may therefore be accounted for.

In the embodiment shown in Fig. 3, it is assumed that the same number of coffee drinkers work each day that the office is open. It should be kept in mind however, that this may not always be the case. For instance, a police station may be staffed more heavily during the normal work week than on the weekends. Therefore, the present invention also contemplates allowing a customer to specify information about the number of coffee drinkers on a day-by-day basis. In such case a total of seven "number-of-coffee-drinker" entries, one for each day of the week, may be requested.

A third item of information that preferably is requested is the number of hours H that the office is open each day 156. A pull-down menu is provided for this purpose. The pull down menu preferably lists 8, 10, 12, 14, 16 and 24 hours, with a default value of 8 hours per day. It should be kept in mind, however, that the customer may instead be permitted to enter any number of hours from 1 to 24.

Once these three items of information have been entered, a calculation is performed to estimate the approximate number of cups needed to satisfy the requirements for this customer over a predetermined time period, preferably on the order of a month -- e.g., 30 days, or four weeks, or the like. This can be done, for instance, by simple multiplying the number of coffee drinking employees C and by the number of days D that the office is open each week to arrive at an estimate of the employee-day's worth of coffee that the customer requires. This value is then multiplied by a factor @(H), which represents the estimated number of cups consumed as a function of the number of hours that an office is open each day. Thus, the total estimated weekly coffee consumption is given by N $_{\rm wk}$ = C x D x @(H). It should be evident, however, that this estimate can be done for any arbitrary number of weeks or, for that matter, prorated for any number of days. In a preferred embodiment, an estimate is made for the requirements over a period of four weeks (approximately one month), and an amount sufficient to satisfy this requirement is suggested to the customer.

The factor @(H) is simply a mapping which preferably is implemented as a lookup table. Table 1 below illustrates a possible mapping for @(H). As seen in Table 1, this is a non-linear mapping. Thus, it is expected that people working in a office that is open eight hours a day do not necessarily consume three times as much coffee if their office opened 24 hours per day. This is simply because each coffee drinker in that office most likely is not there the entire twenty-four hours. Nevertheless, in the example of Table 1, it is assumed that the longer an office is open, the greater the coffee consumption per person in that office. For example, an office that is open five days a week for ten hours per day and has eight employees who drink coffee requires approximately (1.6) (33 employees) (5 days) (4 weeks) = 1056 cups of coffee every four weeks.

Number of Hours	Number of Cups/per
Office is Open, H	person @(H)
4	1.4
8	1.5
10	1.6
12	1.7
18	1.8
24	2.0

Table 1 — Mapping of the number of cups consumed/person as a function of the number of hours that the office is open

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While the above embodiment requests the number of hours per day that an office is open, information such as the start and end times that the office is open may be used instead. In some cases, the start and end times from which the number hours can be calculated, may be more useful than the number of hours. For example, people working in an office that is open 8 hours from 7 am to 3p.m. may consume less coffee than those same people would, if their office was open the 8 hours from noon to 8p.m. Accordingly, the mapping or function of the number cups consumed per person per day may depend on one or both of the start and end times.

Information other than the number of persons, number of days and number of hours per day may also be requested to arrive at an estimate. For example, some offices have individuals who work in the office for varying lengths of time. In such case, information as to the number of person-hours worked per day or person-hours worked per week in the office may be used in addition to, or in place of, one or more of the above.

In addition to requesting information about the quantity of coffee required by the office, the system of the present invention may also assist a customer in determining what types of coffee, tea and other accessory items are to be ordered. For this, the customer is allowed to elect to use either automatic selection 158 or manual selection 160 of the coffees, and then continue 162 with the selection of items. In the example of Fig. 3, the customer has opted for manual selection.

Fig. 4 shows a manual selection web page which allows the customer to specify exactly what is to be ordered. As seen near the top of Fig. 4, the system sends requirement information 170 which advises the customer as to how many cases of coffee should be ordered. The customer is then allowed to specify how many of each

of the items in a list of available items 172, such as coffee and creamer, is desired. The customer is also allowed to specify how many of each kind of accessory in a list of available accessories 174, such as tea bags, cups and napkins, is desired. Instead of giving no guidance, the system may instead recommend quantities of creamer and these other collateral items based on the data input by the customer, or based on the amount of coffee that is slated to be shipped, among other factors. Thus, for example, the system may recommend that either a first amount of liquid creamer, or a second amount of powered creamer also be ordered.

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Fig. 5 shows a usage query web page 180 in which the customer has specified that there are 10 coffee drinkers in the office, the office is open 5 days per week, the office is open 24 hours per day and that manual selection of the coffees is requested. Thus, the principal difference between the web page 150 and 180 is the number of hours that the office is open each day (8 vs. 24). Fig. 6 shows the resulting manual selection web page 190, recommending that a total of 9 units of coffee be ordered 192.

15 Fig. 7 shows a usage query web page 200 in which the customer has specified that there are 10 coffee drinkers in the office, the office is open 5 days per week, the office is open 8 hours per day and that automatic selection 202 of the coffees is requested. Thus, the principal difference between the web page 150 and 200 is that automatic, rather than manual selection is requested. Fig. 8 shows the resulting automatic selection web page 210, recommending that a total of 6 units of coffee be ordered 212, just as the case with the manual selection, elected with reference to Figs. 3 and 4.

The automatic selection web page 210 queries the customer for preferences in one or more broad categories -- in this case, the type of coffee preferred 214 and the type of creamer 216 preferred. Each of these broad categories is preferably subdivided into sub-categories. Under types of coffee, the customer is asked to choose from among strong 218, mild 220, decaf 222 and flavored 224. Under types of creamer, the customer is asked to choose from among liquid creamer 226, powdered creamers 228, flavored liquid creamers 230 and flavored powdered creamers 232. Pull down menus 234 are provided for the customer to select from a number of options for each of the sub-categories for which the customer wishes to receive products.

Fig. 9 shows a filled-out automatic selection web page 240, in which a customer has selected specific items from the pull-down menus for the strong 218. decaffeinated (decaf) 222, flavored 224, liquid creamer 226 and flavored liquid creamer 230 sub-categories. The system then processes this information to formulate a recommendation automatically as to how many of each of the selected items in the

various sub-categories should be ordered. Information about any of the items can be obtained by clicking on the link beneath that items's name.

Fig. 10 displays the system's recommendations 250 in response to the entries for the various sub-categories presented in Fig. 9. Included among these are recommendations 252 as to how the calculated total number of cases to meet the customer's requirements should be distributed among the relevant sub-categories, and also a recommended list of accessory items that the customer may also wish to consider ordering. At this stage, the customer may edit the quantity ordered of each of the items in either list 252, 254 and, if satisfied, clicks on the "add to cart" window 256, signifying that the customer currently is interested in ordering the indicated items.

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Fig. 11 presents the shopping cart web page 260, which displays, in column format, the items selected for purchase 262, the unit price of each item 264, the quantity of each being ordered 266, the total cost due to each corresponding item 268, and the total cost for the entire selection of products 270. The shopping cart web page also allows the customer an opportunity to selectively edit the quantity of any item ordered by editing the value in the quantity icons 272, and also allows a customer to selectively delete any specific item by clicking on a delete icon 274.

Fig. 12 presents another shopping cart web page 280 in which the quantity entered for a particular item 282 was manually changed from "2" to "3" by the customer, with the resultant change in the total 286 being displayable upon clicking on the "update" icon 288. Once the selections are finalized, the customer may then click on the "checkout" icon 290 to complete the ordering process.

Fig. 13 shows the checkout web page 300, which allows a customer to finalize the purchase. The customer enters identifying information, such as a user name 302 and a password 304, before being able to conclude the purchase. If the customer has not previously registered, an opportunity is given for the customer to register as a new user 306. One skilled in the art will recognize that registration and payment methods are well known in the art of e-commerce, and so these are not further explained here.

Upon completing the purchase, the customer then exits the web site. At this time, an electronic order ticket is created. This ticket, or its paper equivalent, is ultimately sent to a distribution center which gathers the necessary goods and prepares them for delivery to the customer. Delivery can be done in a number of ways. For example, the order may be sent directly to the customer via a common carrier such as the post office, a package delivery service such as UPS® or FEDEX®, or the like. Alternatively, the goods may be sent to a local distributor, such as a grocery delivery company, that has been contracted to deliver the goods.

Preferably, the client-side computer uses a browser to communicate with the server, and so generally does not require any special-purpose software to interact with the server. The server, however, will have specialized software for implementing the present invention. In a preferred embodiment, the web pages are in executable hyper text markup language (HTML) software residing on a server computer, and messaging between the server and the client computers is carried out using the hyper text transfer (http) protocol. Thus, the server has executable software code which sends at least one message to display the requests for the number of persons, the number of days per week that the office is open and number of hours per day that the coffee will be made available, and so forth. The server will also include code to receive the responses to these queries from the client computer. In addition, the server computer, or a computing platform associated therewith, includes executable software code to calculate the quantity of coffee needed to satisfy a customer's requirements over a predetermined period of time, and code to calculate a shipping amount to be suggested to the customer.

Optionally, the server computer may include executable software with associated memory for storing historical orders and order-related data pertaining to a particular customer or category of customers. This may be used to compile an order history for each customer. The order history is preferably in the form of a database. The code may be structured to determine consumption or order patterns, and include means for predicting future orders. The code may also, or alternatively, include a routine for comparing a new order with a previous order for assessing consistency and warning the customer of a disparity. It may thus include means for flagging an order that thus appears erroneous, based on the order history of the customer concerned.

For the purposes set out above, the server computer is typically provided with hardware and/or ports to interface to at least one computer readable medium, such as a PROM, flash memory, CD-ROM, optical disk, hard drive disk, floppy disk or other non-volatile memory to store firmware and executable software code. The server will usually also have a second computer readable medium, such as associated RAM or other volatile memory to provide workplace for data and additional software.

Finally, while the above invention has been described with reference to certain preferred embodiments, it should be kept in mind that the scope of the present invention is not limited to these. One skilled in the art may find variations of these preferred embodiments which, nevertheless, fall within the spirit of the present invention, whose scope is defined by the claims set forth below.

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CLAIMS

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1. A method of facilitating the selling at least one food item over a communications network, the method comprising:

receiving first information related to the number of persons expected to consume said at least one food item;

receiving at least one item of second information estimating the amount of time that the at least one food item is to be made available to the persons during a first time period; and

estimating a consumption quantity based on the first and second information, the consumption quantity representing an amount of the at least one food item expected to be consumed over a second time period; and

- 2. The method of claim 1, further comprising the step of sending third information suggesting the shipping quantity; and receiving at least one instruction, requesting that the suggested shipping quantity be sent.
 - 3. The method of claim 1, wherein the shipping quantity comprises an integer number of packaged units of the at least one food item, each packaged unit sufficient to provide a predetermined number of servings of said at least one food item.
 - 4. The method of claim 1, wherein the step of receiving the second information includes receiving a first value reflective of the number of person-hours worked in a facility during a specified time period, the facility to be supplied with the at least one food item.
 - 5. The method of claim 1, wherein the step of receiving the second information includes receiving a first value reflective of a start-time that a facility to be supplied with the at least one food item, is open each day.

6. The method of claim 1, wherein the step of receiving said second information includes obtaining a first value, D, reflective of the number of days per week that the facility wishes to make available said at least one food item.

- 7. The method of claim 1, wherein the step of receiving said second information includes obtaining a second value, H, reflective of the number of hours per day that the facility wishes to make available said at least one food item.
- 8. The method of claim 7, wherein the step of receiving said second information includes obtaining a first value, D, reflective of the number of days per week that the facility wishes to make available said at least one food item.
 - 9. The method of claim 8, wherein the step of estimating the consumption quantity comprises calculating $N_{Wk} = C \times D \times @(H)$, where N_{Wk} is the estimated consumption quantity per week, C is the number of people who consume the at least one food item and is derived from said first information, D is the number of days per week that the food item is to be provided, H is the number of hours per day that the food item is to be made available, and @(H) is a quantity representing the number of units of the at least one food item consumed per person, per day, as a function of H.

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- 10. The method of claim 9, wherein @(H) is a non-linear function of H.
- 11. The method of claim 9, wherein @(H) is implemented as a lookup table.
- 25 12. The method of claim 1, wherein the at least one food item is coffee.
 - 13. A method of ordering at least one food item over a communications network, the method comprising:

sending first information related to the number of persons expected to consume said at least one food item;

sending at least one item of second information reflective of the amount of time that the at least one food item is to be made available to the persons during a first time period;

receiving at least one suggestion concerning a recommended amount of said at least one food item to be ordered; and

sending a command requesting that said recommend amount be shipped.

14. The method of claim 13, comprising:

sending information reflective of the number of hours per day that the at least one food item is to be made available.

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15. The method of claim 13, comprising:

sending information reflective of the number of person-hours worked during a specified time period, in a facility to be supplied with the at least one food item.

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16. The method of claim 13, comprising:

sending a start-time that a facility to be supplied with the at least one food item, is open each day.

- 17. The method of claim 13, wherein the step of receiving includes receiving a recommended amount sufficient to last for a second time period which is greater than the first time period.
 - 18. The method of claim 17, wherein the first time period is at least one day and the second time period is at least four weeks.

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- 19. The method of claim 13, further comprising the step of selecting specific types of said at least one food item, after receiving said recommended amount.
- 20. The method of claim 19, further comprising the step of electing to allow automatic determination of quantities of each type of said at least one food item that are to be shipped.
 - 21. The method of claim 19, further comprising the step of electing to manually select quantities of each type of said at least one food item that are to be shipped.

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- 22. The method of claim 19, further comprising the step of selecting accessory products to the at least one food item.
 - 23. The method of claim 13, wherein the at least one food item is coffee.

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24. A programmed computer having executable software code residing in a computer-readable memory associated therewith, the executable software code including:

code to send at least one message, the at least one message including a first request for first information related to the number of persons expected to consume said at least one food item, and a second request for at least one item of second information estimating the amount of time that the at least one food item is to be made available to the persons during a first time period;

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code to estimate a consumption quantity based on the first and second information, the consumption quantity representing an amount of the at least one food item expected to be consumed over a second time period; and

code to receive an order to send a shipping quantity which is based on said estimated consumption quantity.

25. A computer according to claim 24 including code for sending third information suggesting the shipping quantity; and

J. 1

code for receiving at least one instruction, requesting that the shipping quantity, as suggested, be sent.

- 26. A computer according to claim 24 or claim 25 wherein the shipping quantity comprises an integer number of packaged units of the at least one food item, each packaged unit sufficient to provide a predetermined number of servings of said at least one food item.
- 27. A computer according to any one of claims 24 to 26 wherein the second information includes a first value reflective of the number of person-hours expected to be worked in a facility during a specified time period, the facility to be supplied with the at least one food item.
- 28. A computer according to any one of claims 24 to 27 having means for comparing an order quantity with an order history and flagging a disparity.
 - 29. A web-based communication interface for ordering a quantity of a foodstuff comprising a series of linked electronic pages communicable to a user computer from a server, the series including:

prompting means for prompting a user to input data concerning the number of people expected to consume a food item and the amount of time that the food item will be made available during a predetermined first time period

output display means for communicating an estimate of an amount of the food item that will be consumed during a second time period, as estimated from the input data by means of a remote processor

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means for receiving from the user an order to ship a user-approved quantity of the food item.

30. A communication interface according to claim 29 including an output to warn the receiver thereof of an order quantity that is inconsistent with its order history.

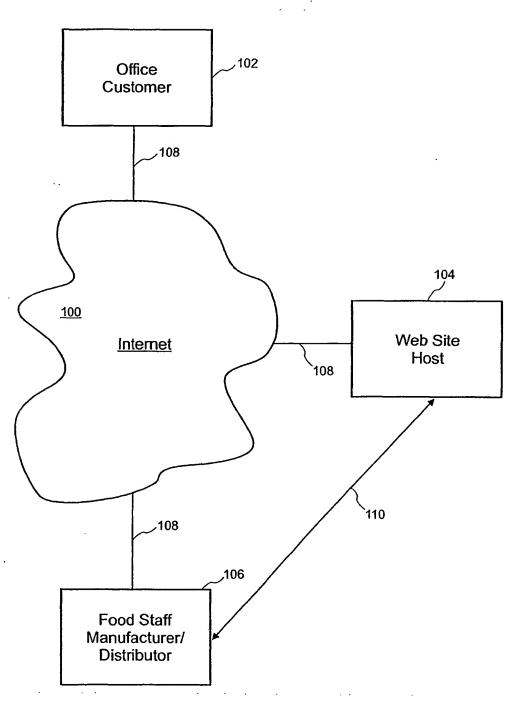


FIG. 1

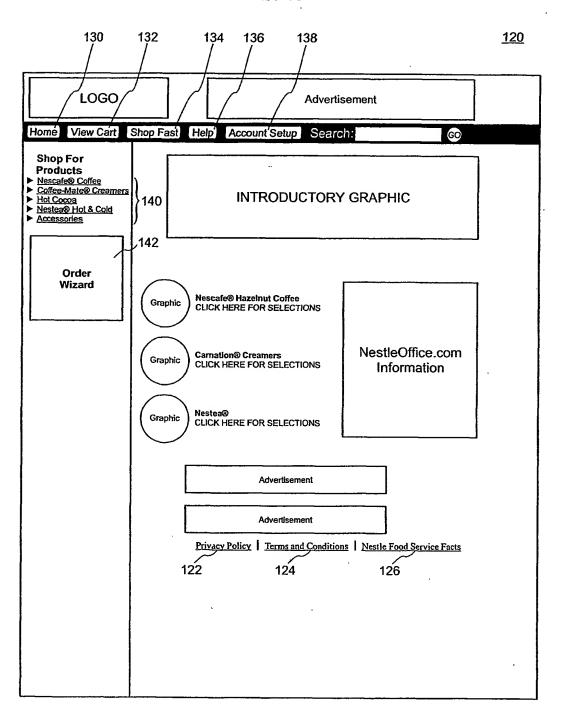


FIG. 2

<u>150</u>

LOGO Advertisement				
Home View Cart	Shop Fast He	elp Account Setup Search:	60	
Shop For Products Nescale® Coffee Coffee Mate® Creamers Hot Cocoa Nestea® Hot & Cold Accessories	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	t: y coffee-drinking employees do you have? y days is your office open each week?	10	~152 - 154
Order Wizard	Selection Typ	y does your office operate each day? be: Selection —158 election —160	8	156
	Continue	162		

FIG. 3.

LOGO		Advertisement		
Home View Cart	Shop Fast Hel	p Account Setup Search: GO		
Shop For	Our Product W	fizard recommends you to buy 6 cans of Nescafe® Product	s~170	
Products ► Nescafe® Coffee	Camation® Cot	fee-Mate NonDairy Creamer-Lite	0	
 Coffee-Mate® Creamers Hot Cocoa Nestea® Hot & Cold 	Carnation® Cot	fee-Mate 50-Pack Amaretto Flavor Non-Dairy Creamers	0	
► <u>Accessories</u>	Carnation® Cof	fee-Mate 50-Pack French Vanilla Flavor Non-Dairy Creamers	0	
	Carnation® Cof	fee-Mate 50-Pack Café Mocha Flayor Non-Dairy Creamers	0	
Order Wizard	Nescafe® Grou (MILD)	nd Coffee-Classic Blend 40-Count Individual Pot Packs		
	Nescafe® Grou (STRONG)	nd Coffee-Classic Blend Decaf 40-Count Individual Pot Packs	0	
	Nescafe® Grou (STRONG)	nd Coffee-Kona Hawaiian Blend 40-Count Individual Pot Packs	0	17
	Nescafe® Grou (STRONG)	nd Coffee-French Roast 40-Count Individual Pot Packs	0	
	Nescafe® Grou (FLAVORED)	nd Coffee-Hazelnut 20-Count Individual Pot Packs	0	
	Carnation® Cof (FLAVORED)	fee-Mate Non Dairy Creamer-French Vanilla	0	
	Camation® Cof	fee-Mate 50-Pack Regular Flavor Non-Dairy Creamers	0	
	Carnation® Cof	fee-Mate 50-Pack Hazelnut Flayor Non-Dairy Creamers	0	
	Carnation® Co	ffee-Mate 50-Pack Irish Creme Flavor Non-Dairy Creamers	0	
	The Order Wiza	ard recommends the following accessories:		
	Lipton® Teas De	ecaffeinated Tea Bags		
	Lipton® Teas Re	egular Tea Bags	0	
	*Party House® !	9oz Hot/Cold Cups	0	17
	*Mardi Gras® P	<u>aper Napkins</u>	0	
	Marcal® Napkin	<u>s</u>	0	
	Add to Ca	nt Back	+	

FIG. 4

<u>180</u>

Home View Cart Shop Fast Help Account Setup Search: Shop For Products Nescafe® Coffee Coffee Mate® Creamers Hot Coccoa Nastead Hot & Cold Accessories Order Wizard Please fill out: 1. How many coffee-drinking employees do you have? 2. How many days is your office open each week? 3. How many hours does your office operate each day? Selection Type: Automatic Selection Manual Selection Continue	LOGO		Advertisement	
Products Nescafe® Coffee Coffee Make® Creamers Hot Cocoa Nestea® Hot & Cold Accessories 1. How many coffee-drinking employees do you have? 10 2. How many days is your office open each week? 3. How many hours does your office operate each day? 24 ▼ Selection Type: ○ Automatic Selection Manual Selection	Home View Cart	Shop Fast He	Account Setup Search:	60
	Shop For Products Nescafe® Coffee Coffee Mate® Creamers Hot Cocoa Nestea® Hot & Cold Accessories Order	Please fill out 1. How many 2. How many 3. How many Selection Typ O Automatic Manual Se	t: y coffee-drinking employees do you have? y days is your office open each week? y hours does your office operate each day? pe: Selection	

FIG. 5

<u>190</u>

LOGO		Advertisement		
Home View Cart	Shop Fast Hel	p Account Setup Search: GO		
Shop For	Our Product W	/izard recommends you to buy 9 cans of Nescafe® Products	~192	
Products Nescafe® Coffee	Carnation® Col	fee-Mate NonDairy Creamer-Lite		
 Coffee-Mate® Creamers Hot Cocoa Nestea® Hot & Cold 	Carnation® Cot	fee-Mate 50-Pack Amaretto Flavor Non-Dairy Creamers	0	
► Accessories	Carnation® Cot	fee-Mate 50-Pack French Vanilla Flavor Non-Dairy Creamers	0	
	Carnation® Cof	fee-Mate 50-Pack Café Mocha Flavor Non-Dairy Creamers	0	
Order Wizard	Nescafe® Grou (MILD)	nd Coffee-Classic Blend 40-Count Individual Pot Packs	0	
	Nescafe® Grou (STRONG)	nd Coffee-Classic Blend Decaf 40-Count Individual Pot Packs	0	
	Nescafe® Grou (STRONG)	nd Coffee-Kona Hawaiian Blend 40-Count Individual Pot Packs	0	17
	Nescafe® Grou (STRONG)	nd Coffee-French Roast 40-Count Individual Pot Packs	0	
	Nescafe® Grou (FLAVORED)	nd Coffee-Hazelnut 20-Count Individual Pot Packs	0	
	Carnation® Cof (FLAVORED)	fee-Mate Non Dairy Creamer-French Vanilla	0	
	Carnation® Cof	fee-Mate 50-Pack Regular Flavor Non-Dairy Creamers	0	
	Carnation® Cof	fee-Mate 50-Pack Hazelnut Flavor Non-Dairy Creamers	0	
	Carnation® Cof	fee-Mate 50-Pack Irish Creme Flavor Non-Dairy Creamers	0	
	The Order Wiz	ard recommends the following accessories:		_
	Lipton® Teas D	ecaffeinated Tea Bags	0	
	Lipton® Teas R	<u>egular Tea Bags</u>	0	
	*Party House®	9oz Hot/Cold Cups	0	17
	*Mardi Gras® P	aper Napkins	0	
	Marcal® Napkir	is	0	
	Add to Ca	Back		•

FIG. 6

<u>200</u>

LOGO	LOGO Advertisement			
Home View Cart S	Shop Fast He	elp Account Setup Search:	60	
Shop For Products Nescafe® Coffee Coffee Matte® Creamers Hot Cocca Nestea® Hot & Cold Coces Order Wizard	Please fill ou 1. How man 2. How man 3. How man Selection Typ	t: y coffee-drinking employees do you have? y days is your office open each week? y hours does your office operate each day? be: Selection 202	10 5 ▼	

FIG. 7

<u>210</u>

LOGO		Advertisement		
Home View Cart	Shop Fast He	lp Account Setup Search:	60	
Shop For Products Nescafe® Coffee Coffee Mate® Creamers Hot Cocoa Nestea® Hot & Cold Accessories Order Wizard	Our Order Wi 1. What kind Strong: -none- Mild: 22 -none- Decaf: 2 -none- Flavored: -none- 2. What kind Liquid: 2 -none- Powder: -none- Liquid Flavore -none-	izard recommends you to buy 6 cans of I of coffee do you prefer? —214 218 0 222 —224 of creamer do you prefer? —216 226		
	Continue	Clear Back	·	:

FIG. 8

<u>240</u>

LOGO	Advertisement	
Home View Cart	Shop Fast Help Account Setup Search: GO	
Shop For Products Nescafe® Coffee Coffee-Mate® Creamers Hot Cocoa Nestea® Hot & Cold Accessories	Strong: —218	
Order Wizard	Mild: —220 none	▼ ▼
	Flavored: 224 Nescafe® Ground Coffee Classic-Hazelnut 20-Count Individual Pot Packs 2. What kind of creamer do you prefer?	▼ ·
	Powder: ~_228	▼ ▼
		▼

FIG. 9

<u>250</u>

LOGO		Advertisement		
Home View Cart	Shop Fast He	Account Setup Search: GO		
Shop For Products Nescafe® Coffee Coffee-Mate® Creamers Hol Cocoa Nestea® Hot & Cold Accessories Order Wizard	The Order Wiz Carnation® Cod Nescafe® Grout (MILD) Nescafe® Grout (STRONG) Nescafe® Grout (FLAVORED) Carnation® Cod The Order Wiz Lipton® Teas D	ard recommends the following results: Ifee-Mate 50-Pack Amaretto Flavor Non-Dairy Creamers Ind Coffee-Classic Blend Decaf 40-Count Individual Pot Packs Ind Coffee-Cool Java Blend 40-Count Individual Pot Packs Ind Coffee-Hazelnut 20-Count Individual Pot Packs Ifee-Mate 50-Pack Regular Flavor Non-Dairy Creamers Ind recommends the following accessories: Index of the Individual Pot Packs Individual Pot Packs Ifee-Mate 50-Pack Regular Flavor Non-Dairy Creamers Individual Pot Packs Ifee-Mate 50-Pack Regular Flavor Non-Dairy Creamers Individual Pot Packs Individual Pot Packs	1 2 2 1 0 0	252

FIG. 10

<u>260</u>

LOGO		Advertis	ement			
Home View Cart Shop Fa	st Help Account Se	tup Search	1:		60	
Cart # 16714874						
Save Cart Empty Cart Check	cout My Saved Lists P	revious Orders	26 J	4 266	5 268 /	274
Product Description			Price	Qty.	Total	Delete
2,62	2			V 30 B		
Graphic Carnation® Coffe Non-Dairy Cream	e-Mate 50-Pack Amaretto ers	<u>Flavor</u>	\$5.29	1	\$5.29	
Graphic Nescafe® Ground Individual Pot Pac	1 Coffee-Classic Blend Decks	ecaf 40-Count	\$44.00	2	\$88.00	
Graphic Nescafe® Ground Individual Pot Pac	l Coffee-Cool Java Blend ks	40-Count	\$58.00	2	\$116.00	
Graphic Nescafe® Ground Pot Packs	Coffee-Hazelnut 20-Cou	int Individual	\$24.00	2	\$48.00	
Graphic Carnation® Coffee Non-Dairy Cream	e-Mate 50-Pack Regular ers	Flavor	\$4.09	1	\$4.09	□ 288
			Produ	cts Total:	\$261.98	2
		2	70	Subtotal:	Upd \$261.98	ate
©1995-2000	rity Info Customer Serv	or its supplier	s. All righ	ts reserved		
All information on this substitute for the advic product packaging. If	112 Corporate Road Nor Web Site is provided for info se of your physician or medic you have or suspect that you Please click here for our cor	rmational purpos al professional. I have a medical	ses only. It You shouk	is not mean	ad all	

FIG. 11

280

LOGO			Adverti	sement			
Home View Cart Shop F	ast Hel	p Account S	etup Searc	ch:		GO	
Cart # 16714874 Save Cart Empty Cart Chec	290 kout My	Saved Lists I	Previous Orde	rs 26	64 266	5 268 /	
Product Description				Price	Qty.	Total	Delete
2,6	52						
Graphic Carnation® Coff Non-Dairy Crea		0-Pack Amaret	to Flavor	\$5.29 ,	1	\$5.29 2743	ار
Graphic Nescafe® Groun Individual Pot Pr		Classic Blend D	Decaf 40-Coun		3	\$88.00	٦
Graphic Nescafe® Groun Individual Pot Pa		Cool Java Blen	d 40-Count	\$58.00	2	\$116.00	
Graphic Nescafe® Groun	d Coffee-	Hazelnut 20-Co	ount Individual	\$24.00	2	\$48.00	
Graphic Carnation® Coff Non-Dairy Crear	ee-Mate 5 ners	0-Pack Regular	r Flavor	\$4.09	1	\$4.09	□ 288
				Produ	ucts Total:	\$261.98	2
			:	286	Subtotal:		late
Contact Us Sec							
©1995-200		cer.com Inc. and orate Road No				ſ.	
All information on thi substitute for the adv product packaging. medical professional	ice of your f you have	physician or med or suspect that ye	lical professiona ou have a medic	l. You shou al problem,	Id carefully re promptly con	ad all	

FIG. 12

<u>300</u>

LOGO	Advertisement			
Sign-In / Register to Check Out Your Order				
FYI Check Out To use this feat	You are about to enter our secure check-out area to complete your order, ature we need to know who you are, so please sign-in/register below			
Enter User Name: 302 1 Enter Password: 304 Forgot your password? Click here for help.	New Users, Click Here to register Did you know? Registered NetGrocer Shoppers can use our excellent online customer support, save shopping carts for future reference, quickly shop using their personal purchase history and much more? Dow we have your correct e-mail address on file? If you have changed Internet Service Providers, or are using a different e-mail address from the time you signed up with NetGrocer.com, please visit our Customer Service Department, and update your account information. AOL users, please note: If you have placed filters on your e-mail, you must allow NetGrocer.com e-mails to pass through your filters, or you will receive neither your confirmation letters nor electronic invoices.			
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FIG. 13

PATENT COOPERATION TREATY

PCT

DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)

Applicant's or agent's file reference	IMPODTANT D	CL ADATION	Date of mailing(day/month/year)
NO 6839/WO	IMPORTANT DI	ECLARATION	22/01/2002
International application No.	International filing date(lay/month/year)	(Earliest) Priority date (day/month/year)
PCT/EP 01/09568		17/08/2001	18/08/2000
International Patent Classification (IPC) or both national classification and IPC G06F17/60			
Applicant			
SOCIETE DES PRODUITS NESTLE S.A.			
This International Searching Authority hereby declares, according to Article 17(2)(a), that no international search report will be established on the international application for the reasons indicated below			
t. X The subject matter of the international application relates to:			
a. scientific theories.			
b. mathematical theories			
c. plant varieties.			
d. animal varieties.			
e. essentially biological processes for the production of plants and animals, other than microbiological processes			
and the products of such processes. f. Schemes, rules or methods of doing business.			
g. schemes, rules or methods of performing purely mental acts.			
h. schemes, rules or methods of playing games.			
i. methods for treatment of the human body by surgery or therapy.			
j. methods for treatment of the animal body by surgery or therapy.			
k. diagnostic methods practised on the human or animal body.			
i. mere presentations of information.			
m. computer programs for which this International Searching Authority is not equipped to search prior art.			
2. The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:			
the description	the claims	· [the drawings
3. The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:			
the written form has not been furnished or does not comply with the standard.			
the computer readable form has not been furnished or does not comply with the standard.			
4. Further comments:			
Name and mailing address of the Internation European Patent Office, P.B. 58		Authorized officer	
NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 (

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 203

The claims relate to subject matter for which no search is required according to Rule 39 PCT. Given that the claims are formulated in terms of such subject matter or merely specify commonplace features relating to its technological implementation, the search examiner could not establish any technical problem which might potentially have required an inventive step to overcome. Hence it was not possible to carry out a meaningful search into the state of the art (Art. 17(2)(a)(i) and (ii) PCT; see Guidelines Part B Chapter VIII, 1-6).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.